IN THE CLAIMS:

Please amend Claims 1, 13, 28, and 30 as follows.

1. (Currently Amended) A 3D image data generator that generates 3D image data for a 3D display apparatus that emits a plurality of very small diameter parallel rays arranged at high density and deflects the rays to form intersections of the plurality of rays at selected locations in 3D space, ~~in air,~~ wherein ~~the~~ a plurality of rays from each intersection ~~the intersections~~ enter into an eye of an observer ~~to be viewed as light flux~~, such that the observer views the intersecting rays as light flux and recognizes the respective intersection as a point image, wherein ~~intersections as point images~~ a large collection of intersections are formed at locations in 3D space so as to form ~~which forms~~ a 3D image, ~~wherein~~ said data generator comprising:

a control unit that generates 3D image data usable by the 3D display apparatus by using a plurality of parallax images.

2. (Previously Presented) The 3D image data generator according to claim 1, wherein said plurality of parallax images are images acquired at a plurality of viewing points of an imaging system, and their pixel count and alignment match the number and alignment of ray sources.

3. (Previously Presented) The 3D image data generator according to claim 2, wherein when obtaining said plurality of parallax images, only an effective area for generating said 3D image reproduction data is clipped by trimming.

4. (Previously Presented) The 3D image data generator according to claim 3, wherein after said trimming, the trimmed image is further shrunk or stretched.

5. (Previously Presented) The 3D image data generator according to claim 2, wherein when obtaining said plurality of parallax images, to limit an effective area for generating 3D image reproduction data, an area board which indicates said effective area is imaged together with the object.

6. (Previously Presented) The 3D image data generator according to claim 5, wherein said area board is set up virtually in a virtual space constructed on a computer and is not taken into the parallax image data acquired.

7. (Previously Presented) The 3D image r data generator according to claim 2, wherein when obtaining said plurality of parallax images, the locations of the viewing points move in the imaging system such that the optical axis of the imaging system will move in parallel.

8. (Previously Presented) The 3D image data generator according to claim 5, wherein when obtaining said plurality of parallax images, the locations of the viewing points move in the imaging system such that the optical axis of the imaging system will always pass through the center of said effective area.

9. (Previously Presented) The 3D image data generator according to claim 1, wherein said 3D image reproduction data is a group of rays emitted from the ray sources and sampled on a plane that is located near the observer and intersects with the group of rays, said data having pixel count and alignment that match the number of viewing points and alignment of said ray sources needed to obtain said parallax images.

10. (Previously Presented) The 3D image data generator according to claim 9, wherein said 3D image reproduction data is generated from said plurality of parallax images, with pixels from the same location in each of the parallax images arranged according to the alignment of the parallax images.

11. (Previously Presented) The 3D image data generator according to claim 1, wherein said 3D image reproduction data is represented as parallax image arrays Q (i, j) of w2 pixels wide × h2 pixels high parallax images, w2 and h2 coincide with the horizontal resolution and vertical resolution, respectively, of the viewing points for obtaining said parallax image data, and (i, j) corresponds to the locations of the ray sources capable of generating said 3D image reproduction data,

said parallax image data is represented as image arrays P (x, y) of w1 wide × h1 pixels high image, w1 and h1 coincide with the horizontal resolution and vertical resolution, respectively, of said sources, and (x, y) corresponds to the locations of the viewing points for obtaining said parallax image, and

any given element image Q (m, n) of said image arrays Q (i, j) is formed by mapping the pixel information at the location (m, n) in said image arrays P (x, y) for all the values of x and y to the pixel information at the location (m, n) of the image Q (m, n).

12. (Cancelled)

13. (Currently Amended) (Currently Amended) A 3D image generating method that generates 3D image data for a 3D display apparatus that emits a plurality of very small diameter parallel rays arranged at high density and deflects the rays to form intersections of the plurality of rays at selected locations in 3D space, ~~in air,~~ wherein ~~the~~ a plurality of rays from each intersection ~~the intersections~~ enter into an eye of an observer ~~to be viewed as light flux~~, such that the observer views the intersecting rays as light flux and recognizes the respective intersection as a point image, wherein ~~intersections as point images~~ a large collection of intersections are formed at locations in 3D space so as to form ~~which forms~~ a 3D image,

wherein said generating method generates 3D image data usable by the 3D display apparatus by using a plurality of parallax images.

14-24. (Cancelled)

25. (Original) A computer-readable storage medium that stores program code created in accordance with the method recited in claim 13.

26. (Previously Presented) The 3D image data generator according to claim 1, wherein said 3D display apparatus causes the observer to recognize the 3D image of the object by irradiating a plurality of rays through the intersection formed by themselves into the observer's one eye.

27. (Previously Presented) The 3D image generating method according to claim 13, wherein said 3D display apparatus causes the observer to recognize the 3D image of the object by irradiating a plurality of rays through the intersection formed by themselves into the observer's one eye.

28. (Currently Amended) A 3D display apparatus that forms intersections of a plurality of rays to generate 3D image of an object, comprising;

a display panel with a plurality of light sources for emitting a plurality of very small diameter parallel rays at high density; and

a controller for controlling said display panel to emit rays from the light sources to a direction of viewing points where parallax images are obtained,

wherein said controller controls either colors or intensities of rays based on the plurality of parallax images which contain the object image, the plurality of rays from the plurality of light sources form intersections ~~in air~~ at selected locations in 3D space, and the plurality of rays from ~~the~~ each intersection ~~intersections~~ enter into an eye of an observer, ~~to be viewed as light flux~~, such that the observer views the intersecting rays as light flux and recognizes the respective

intersection as a point image, wherein ~~intersections as point images~~ a large collection of intersections are formed at locations in 3D space so as to form ~~which forms~~ a 3D image.

29. (Previously Presented) The apparatus according to claim 28, wherein said controller associates each light source with a coordinate of each pixel on the parallax images according to coordinates of the viewpoints where the parallax images are obtained, and coordinates of the light sources and colors and intensities of rays emitted from the light sources to the viewpoints are based on the colors and brightness of corresponding pixels.

30. (Currently Amended) A method for controlling a display panel comprising a plurality of light sources for emitting a plurality of rays, said method comprising:

inputting parallax images of an object obtained at viewpoints of a imaging system;

associating coordinates of the light sources with coordinates of pixels in the parallax images according to a coordinates of the viewpoints and the coordinates of the light sources;

determining a color and intensity of ray emitted from each light source to the direction of the viewpoints based on a color and intensity of each corresponding pixel: and

emitting ray of the determined color and intensity from each light source to the direction of the viewpoints,

wherein said display panel is a panel that is used for a 3D display apparatus which emits a plurality of very small diameter parallel rays arranged at high density and deflects the rays to form intersections of the plurality of rays at selected locations in 3D space ~~in air~~, wherein ~~the~~ a plurality of rays from ~~the~~ each intersection ~~intersections~~ enter into an eye of an observer ~~to be~~

~~viewed as light flux~~, such that the observer views the intersecting rays as light flux and recognizes the respective intersection as a point image, wherein ~~intersections as point images~~ a large collection of intersections are formed at locations in 3D space so as to form ~~which forms~~ a 3D image.